

## Humidity-induced formation of water channels in supramolecular assemblies of wedge-shaped amphiphiles: effect of molecular geometry on channel topology

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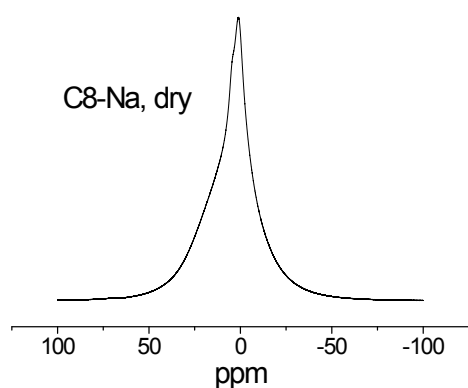
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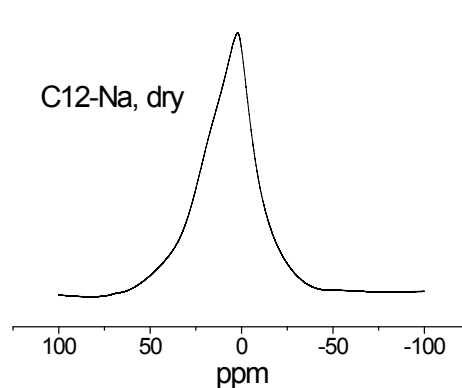
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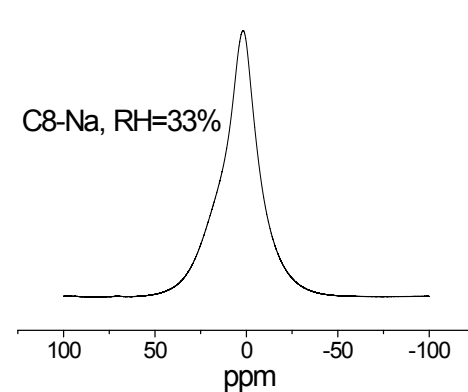
### Supporting information



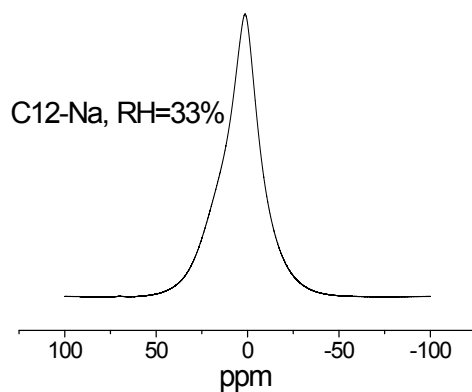
(a)



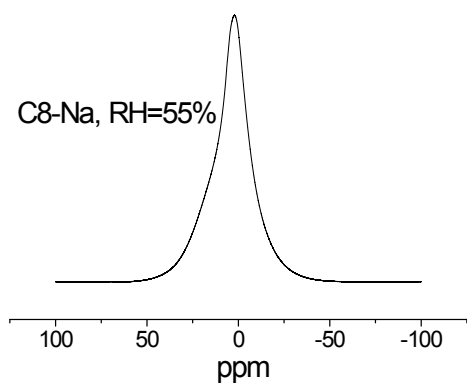
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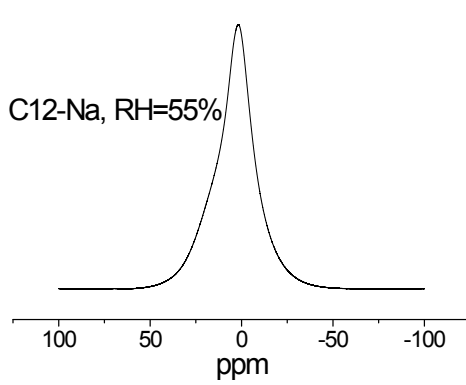
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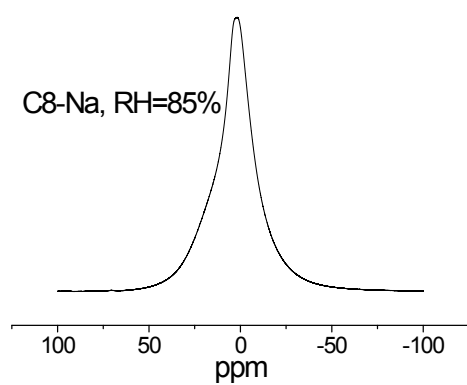
(g)



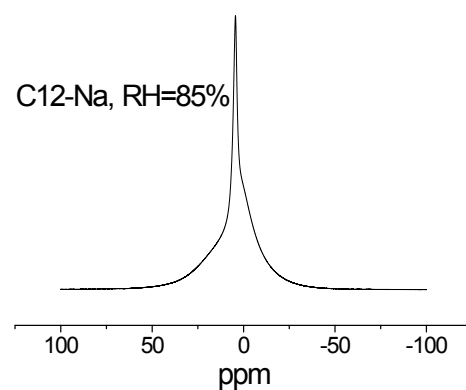
(c)



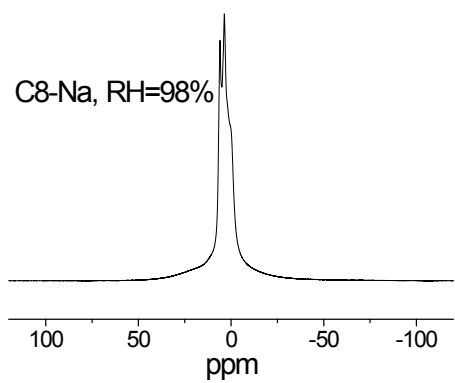
(h)



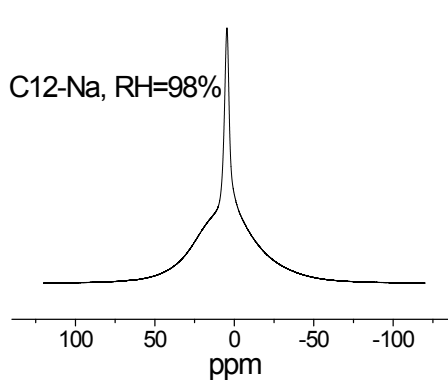
(d)



(i)



(e)



(j)

Figure 1s. Static-solid-state  $^1\text{H}$  NMR spectra of C8-Na and C12-Na measured at 23 °C and different relative humidity (RH).

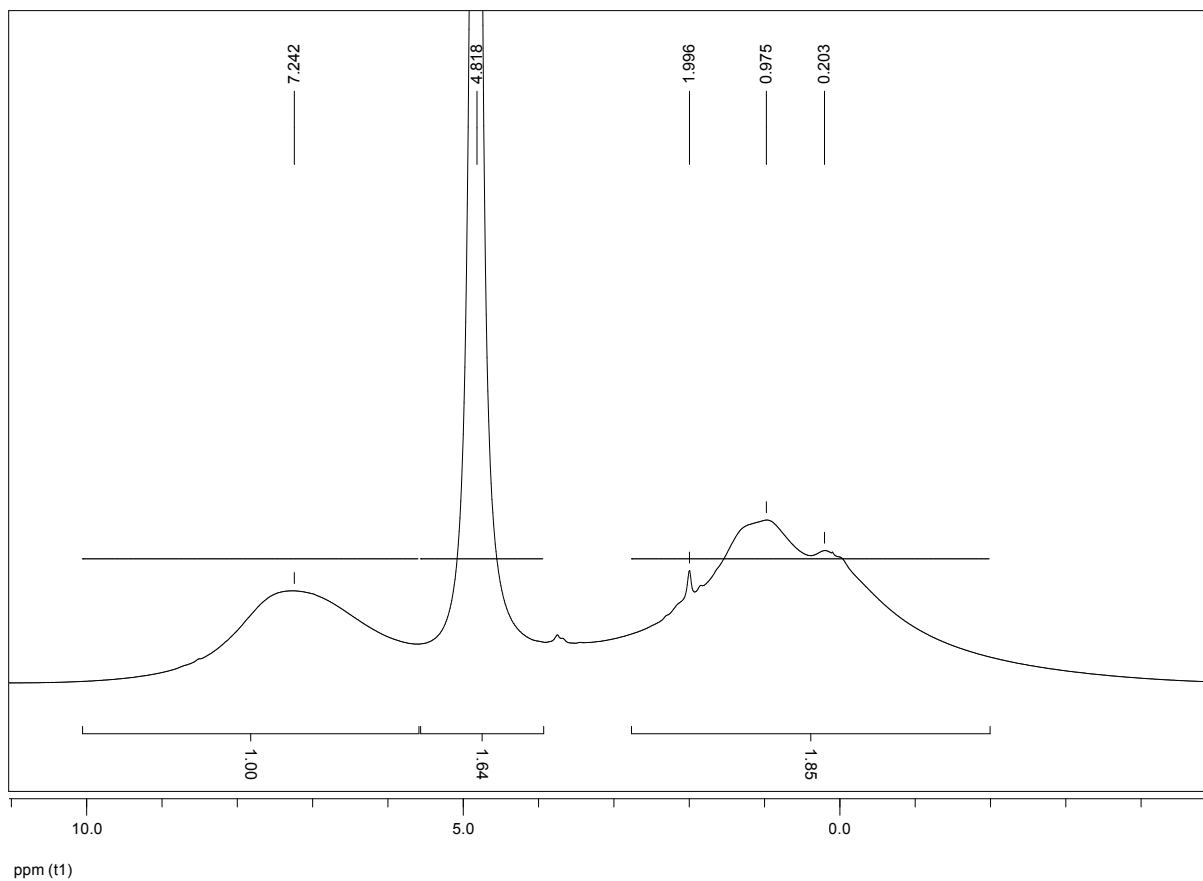


Figure 2s. Solid-state  $^1\text{H}$  spectrum of C8-Na at 23 °C and RH 98% measured under magic angle spinning at 10 kHz.

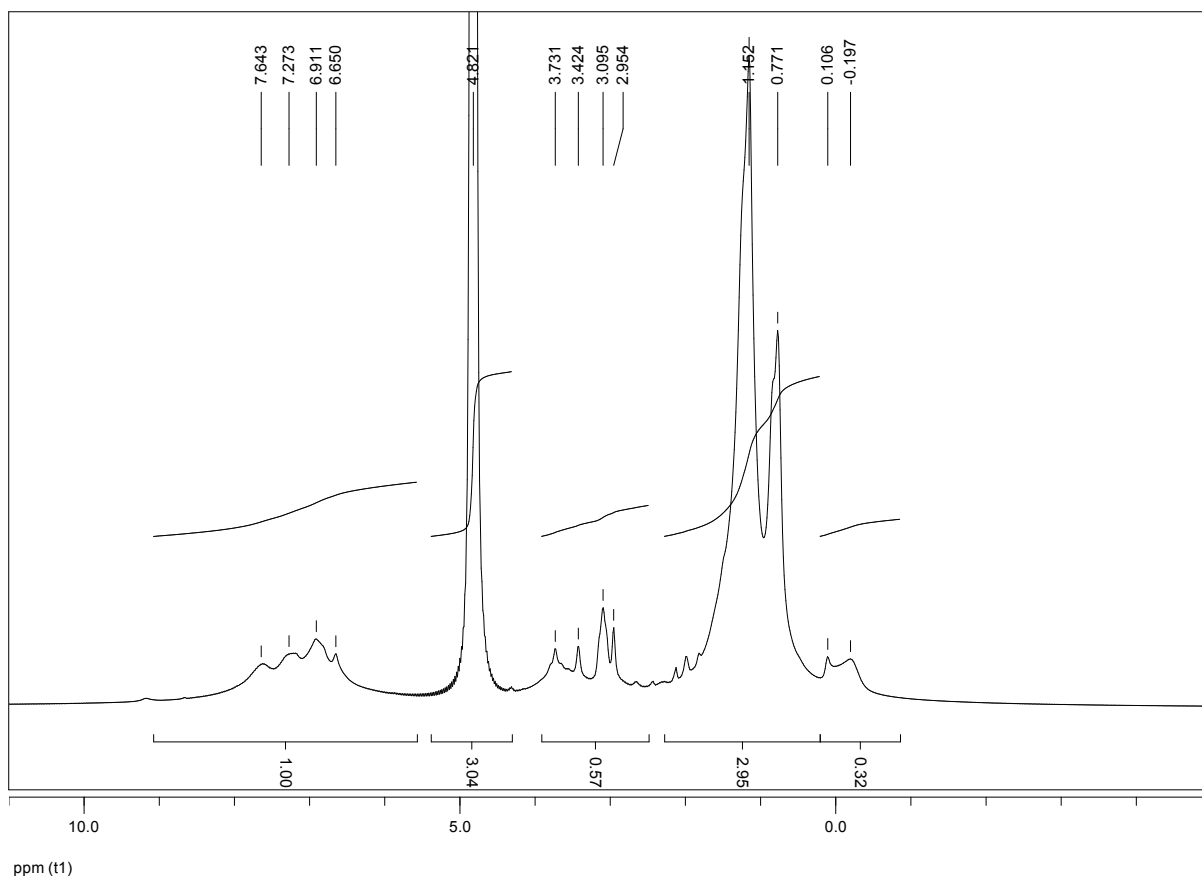


Figure 3s. Solid-state  $^1\text{H}$  spectrum of C12-Na at 23 °C and RH 98% measured under magic angle spinning at 10 kHz.

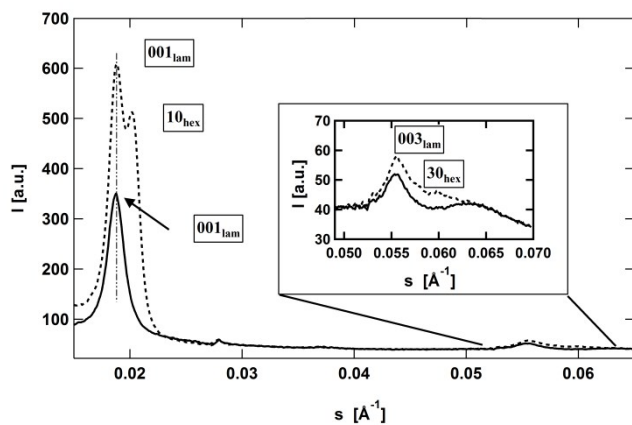


Figure 4s. 1D GISAXS patterns calculated from the corresponding 2D patterns in Figure 6. The reflexes of the lamellar and hexagonal columnar phase are indicated.

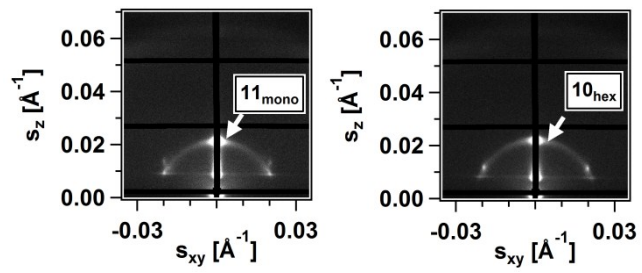


Figure 5s. 2D GISAXS patterns corresponding to heating of a thin film of C12-Na. The patterns correspond to 100 (left) and 200 °C (right). The characteristic peaks of the monoclinic columnar and hexagonal columnar phase are shown.